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Comparing preverbal infants' numerical abilities in in-person vs. online data collection formats

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Purpose

Due to COVID-19, in-person data collection has been halted in order to adhere to social distancing guidelines. Many labs have begun to practice online data collection as an alternative — however, this method is unprecedented within many scientific fields, calling for testing to ensure its validity. We are testing this format of data collection by comparing in-person results of infant looking time to results achieved by online means. The method of looking time is used to determine ordinal knowledge development by having infants attempt to successfully differentiate a 1:2 ratio of objects. If a null interaction is observed between the two formats, this will suggest that data is reliable across both types of data collection.

Procedure

Xx infants, within age ranges of 5-7 months and 9-13 months were tested. In both in-person and online trials, infants were first familiarized to food items presented to them in a video format. They were then presented with eight trials (shown in a randomized order) of an adult hiding food inside of two cups and then asking another adult to pick one of the cups. In half of the trials, the choosing individual picked the larger quantity of food items, while in the other half, they chose the smaller. Infant looking time was measured in order to determine level of surprise at the choice made, differentiating between expected and unexpected choices.

Results

36 infants were tested in the in-person condition, while xx infants have been tested online to date. We will conduct an ANOVA of each in-person and online data collection, comparing overall look duration by trial type, general engagement, and number of trials dropped. 5-7-month-olds failed the task in in-person trials, while 9-11-month-olds succeeded. If online data collection is valid, 5-7-month-olds should fail and 9-11-month-olds should succeed here as well.